Listing of Claims:

1. (Currently Amended) An image processing apparatus, comprising:

an exposing device for exposing ~~an~~ a thermally developable image forming material so as to form a latent image on the image

5   forming material based on image data;

a thermal developing device for thermally developing and visualizing the latent image on the exposed image forming material so as to form an image;

a measuring device for measuring ~~the~~ an image density of the

10   image on the developed image forming material;

a calibrating device for forming a table to define a relation between an image signal and image density thereof based on ~~the basis of plural~~ a plurality of different test image data and ~~measured image~~ measured image densities thereof;

15   a storing device for storing ~~a~~ characteristic change model data indicating a characteristic change of ~~at least one of the~~ ~~exposing device and~~ the thermal developing device ~~with~~ over time after starting of operation of the image processing apparatus;

a difference calculating device to calculate, each time an

20   image is formed based on an image signal corresponding to diagnostic image data, a density difference ~~on the basis of the~~ ~~characteristic change model~~ between ~~the~~ an image density at

-4-

a time ~~of forming~~ at which the table was formed and ~~the~~ an image

density at a time ~~of forming an~~ at which the image is formed

25   based on the image signal ~~of~~ corresponding to the diagnostic

image data, said calculation of the density difference being

performed based on the characteristic change model data; and

        a correcting device for correcting the table based on ~~the~~

~~basis of~~ the density difference calculated by the difference

30   calculating device.

        2.   (Currently Amended) The image processing apparatus of

claim 1, wherein ~~said storing device stores~~ said characteristic

change model ~~that starts at the~~ data indicates the characteristic

change starting from a time ~~of the turning on of the~~ at which a

power source of the image processing apparatus is turned on.

        3.   (Currently Amended) The image processing apparatus of

claim 1, wherein the characteristic change model ~~is a~~ data

comprises predetermined characteristic change model data

installed from ~~the~~ outside the image processing apparatus.

        4.   (Currently Amended) The image processing apparatus of

claim 1, wherein the characteristic change model ~~is an~~ data

comprises actual characteristic change model data obtained based

on image densities measured by the measuring device ~~with the~~

5   ~~processing of the image forming materials~~ <u>each time any said</u>

<u>image forming material is processed</u>.

     5.   (Currently Amended) An image processing apparatus,

comprising:

     an exposing device for exposing ~~an~~ <u>a thermally developable</u>

image forming material so as to form a latent image on the image

5   forming material based on image data;

     a <u>thermal</u> developing device for <u>thermally</u> developing and

visualizing the latent image on the exposed image forming

material so as to form an image;

     a measuring device for measuring ~~the~~ <u>an</u> image density of the

10   image on the developed image forming material;

     a calibrating device for forming a table to define a

relation between an image signal and <u>an</u> image density thereof

<u>based</u> on ~~the basis of plural~~ <u>a plurality of</u> different test image

data and ~~measured image~~ <u>measured image</u> densities thereof;

15   a storing device for storing ~~a~~ passage-time film

characteristic model ~~that is the~~ <u>data indicating a</u> change ~~with~~

<u>over</u> time of a characteristic of the image forming material <u>after</u>

<u>loading of the image forming material in the image processing</u>

<u>apparatus</u>; ~~and~~

20   a difference calculating device to calculate<u>, each time an</u>

<u>image is formed based on an image signal corresponding to</u>

diagnostic image data, a density difference ~~on the basis of the~~

~~passage-time film characteristic model~~ between ~~the~~ an image

density at a time ~~of forming~~ at which the table was formed and

25 ~~the~~ an image density at a time ~~of forming an~~ at which the image

is formed based on ~~the~~ image signal ~~of~~ corresponding to the

diagnostic image data, said calculation of the density difference

being performed based on the passage-time film characteristic

model data; and

30   a correcting device for correcting the table based on ~~the~~

~~basis of~~ the density difference calculated by the difference

calculating device.

     6. (Currently Amended) The image processing apparatus of

claim 5, wherein said storing device stores ~~a~~ result data

obtained by exposing ~~to~~ a part of the image forming material with

a light quantity ~~through~~ that corresponds to a predetermined

5 density according to the table ~~corresponding to a predetermined~~

~~density~~ at ~~the~~ a time of forming a diagnosis image and

by measuring a density ~~on the~~ at said part of the image forming

material, ~~on which the diagnosis image is formed,~~ wherein the

image processing apparatus further comprises:

10   a first controlling device for controlling at least one of

the exposing device and the developing device ~~in such a way~~ so as

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to offset ~~the~~ a characteristic change of <u>at least one of</u> the

exposing device and the developing device;

a first estimation device for calculating and keeping a

15   characteristic change of the image forming material <u>based</u> on ~~the~~

~~basis of~~ the <u>stored</u> result data; and

a second controlling device for controlling at least one of

the exposing device and the developing device <u>based</u> on ~~the basis~~

~~of~~ <u>the characteristic change of the image forming material</u>

20   <u>calculated by</u> the first estimation device ~~in such a way as to~~

~~offset the characteristic change of the image forming material~~

instead of <u>the</u> stored passage-time film characteristic model <u>data</u>

<u>so as to offset the characteristic change of the image forming</u>

<u>material</u>.

7.   (Currently Amended) The image processing apparatus of

claim 6, further comprising:

a clearing device for clearing ~~off~~ the characteristic change

~~made~~ <u>calculated</u> by the first estimation device ~~at the time of~~

5   ~~preparation of~~ <u>when</u> the table <u>is prepared</u> by the calibrating

device ~~or at the time of operation of~~ <u>and when</u> the second

controlling device <u>is operated</u>.

8.   (Currently Amended) The image processing apparatus of

claim 7, wherein the first controlling device and the second

controlling device are ~~carried out~~ <u>operated</u> when an image

formation <u>operation</u> is resumed after ~~a stop of~~ the <u>image</u>

5   <u>processing</u> apparatus <u>has been stopped</u> for a period of time <u>that</u>

<u>is</u> not shorter than a predetermined time.

9.   (Currently Amended) The image processing apparatus of

claim 6, wherein said first estimation device ~~calculate~~

<u>calculates</u> and ~~keep~~ <u>keeps</u> a characteristic change of the image

forming material every time the <u>image processing</u> apparatus stops

for a predetermined period of time.

10.   (Currently Amended) The image processing apparatus of

claim 5, wherein said storing device stores ~~a~~ result data

obtained by exposing ~~to~~ a part of the image forming material with

a light quantity ~~through~~ <u>that corresponds to a predetermined</u>

5   <u>density according to</u> the table ~~corresponding to a predetermined~~

~~density~~ at ~~the~~ <u>a</u> time of forming a diagnosis image and <u>by</u>

measuring a density on ~~the~~ <u>said</u> part of the image forming

material<u>,</u> ~~on which the diagnosis image is formed,~~ wherein the

image processing apparatus further comprises:

10   a holder for holding the image forming material;

a first controlling device for controlling at least one of

the exposing device and the developing device ~~in such a way~~ <u>so</u> as

to offset ~~the~~ a characteristic change of <u>at least one of</u> the

exposing device and the developing device;

15   a third controlling device for controlling<u>, during a</u>

<u>predetermined period of time after loading the holder to the</u>

<u>image processing apparatus,</u> at least one of the exposing device

and the developing device <u>based</u> on ~~the basis of the~~ <u>a</u> difference

between ~~the result of~~ the density measured ~~on the~~ <u>at said</u> part of

20   the image forming material and a predetermined density for

comparison<u>;</u> ~~during a predetermined period of time after loading~~

~~the holder to the apparatus;~~

        a second estimation device for calculating and keeping a

characteristic change of the image forming material ~~through the~~

25   <u>based on an</u> amount of the control carried out lastly in said

third controlling device and the result ~~of the density measured~~

<u>data stored</u> in the storing device<u>;</u> ~~after a predetermined period~~

~~of time after loading the holder to the apparatus;~~ and

        a fourth controlling device for controlling<u>, if the</u>

30   <u>predetermined period of time after loading the holder to the</u>

<u>image processing apparatus has elapsed</u>, at least one of the

exposing device and the developing device <u>based</u> on ~~the basis of~~

<u>the characteristic change of the image forming material</u>

<u>calculated by</u> the second estimation device ~~in such a way as to~~

35   ~~offset the characteristic change of the image forming material~~

instead of <u>the</u> stored passage-time film characteristic model <u>data</u>

<u>so as to offset the characteristic change of the image forming</u>

<u>material</u>.

11.   (Currently Amended) The image processing apparatus of

claim 10, further comprising:

a clearing device for clearing ~~off~~ the characteristic change

~~made~~ <u>calculated</u> by the second estimation device ~~at the time of~~

5   ~~preparation of~~ <u>when</u> the table <u>is prepared</u> by the calibrating

device ~~or at the time of operation of~~ <u>and when</u> the fourth

controlling device <u>is operated</u>.

12.   (Currently Amended) The image processing apparatus of

claim 11, wherein the first controlling device and the fourth

controlling device are ~~carried out~~ <u>operated</u> when an image

formation <u>operation</u> is resumed after ~~a stop of~~ the <u>image</u>

5   <u>processing</u> apparatus <u>has been stopped</u> for a period of time <u>that</u>

<u>is</u> not shorter than a predetermined time.

13.   (Currently Amended) The image processing apparatus of

claim 10, wherein said second estimation device calculates and

keeps a characteristic change of the image forming material every

time the <u>image processing</u> apparatus stops for a predetermined

period of time.

14.   (Currently Amended) An image processing apparatus,
comprising:

an exposing device for exposing ~~an~~ a thermally developable
image forming material so as to form a latent image on the image
forming material based on image data;

a thermal developing device for thermally developing and
visualizing the latent image on the exposed image forming
material so as to form an image;

a measuring device for measuring ~~the~~ an image density of the
image on the developed image forming material;

a calibrating device for forming a table to define a
relation between an image signal and an image density thereof
based on ~~the basis of plural~~ a plurality of different test image
data and ~~measured-image~~ measured image densities thereof;

a first storing device for storing a characteristic change
model ~~that is at least one of the~~ data indicating changes ~~with~~
over time of a characteristic of ~~the exposing device and~~ the
thermal developing device after starting of operation of the
image processing apparatus;

a second storing device for storing a passage-time film
characteristic model ~~that is the~~ data indicating a change ~~with~~
over time of a characteristic of the image forming material after
loading of the image forming material in the image processing
apparatus; and

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25   a difference calculating device to calculate, each time an

image is formed based on an image signal corresponding to

diagnostic image data, a density difference ~~on the basis of the~~

~~characteristic change model and the passage-time film~~

~~characteristic model~~ between ~~the~~ an image density at a time ~~of~~

30   ~~forming~~ at which the table was formed and ~~the~~ an image density at

a time ~~of forming an~~ at which the image is formed based on the

image signal ~~of~~ corresponding to the diagnostic image data, said

calculation of the density difference being performed based on

the characteristic change model data and the passage-time film

35   characteristic model data; and

      a correcting device for correcting the table based on ~~the~~

~~basis of~~ the density difference calculated by the difference

calculating device.

      15.   (Currently Amended) The image processing apparatus of

claim 14, wherein ~~said first storing device stores~~ said

characteristic change model ~~for a~~ data indicates the

characteristic change starting from ~~the~~ a point of time ~~of the~~

5   ~~turning on of the~~ at which a power source of the image processing

apparatus is turned on.

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16.   (Currently Amended) A method of ~~an~~ image processing

with an image processing apparatus, comprising ~~the steps of~~:

~~exposing for~~ exposing ~~an~~ a thermally developable image

forming material so as to form a latent image on the image

5   forming material based on image data;

~~developing for~~ thermally developing and visualizing, with a

thermal developing device, the latent image on the exposed image

forming material so as to form an image;

~~measuring for~~ measuring ~~the~~ an image density of the image on

10   the developed image forming material;

~~calibrating for~~ forming a table to define a relation between

an image signal and image density thereof based on ~~the basis of~~

~~plural~~ a plurality of different test image data and ~~measured~~

~~image~~ measured image densities thereof;

15   ~~storing for~~ storing ~~a~~ characteristic change model data

indicating a characteristic change of ~~at least one of an exposing~~

~~device and an~~ the thermal developing device ~~with~~ over time after

starting of operation of the image processing apparatus;

~~difference~~ calculating, each time an image is formed based

20   on an image signal corresponding to diagnostic image data, ~~to~~

~~calculate~~ a density difference ~~on the basis of the characteristic~~

~~change model~~ between ~~the~~ an image density at a time ~~of forming~~ at

which the table was formed and ~~the~~ an image density at a time ~~of~~

~~forming an~~ at which the image is formed based on the image signal

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25   ~~of~~ <u>corresponding to the</u> diagnostic image data<u>, said calculation</u>

<u>of the density difference being performed based on the</u>

<u>characteristic change model data</u>; and

        ~~correcting for~~ correcting the table <u>based</u> on ~~the basis of~~

the <u>calculated</u> density difference<u>.</u> ~~calculated by the difference~~

30   ~~calculating.~~

        17.   (Currently Amended) The method of claim 16, wherein

~~said storing step stores~~ the characteristic change model ~~that~~

~~starts at the~~ <u>data indicates the characteristic change starting</u>

<u>from a</u> time ~~of the turning on of the~~ <u>at which a</u> power source <u>of</u>

<u>the image processing apparatus is turned on</u>.

        18.   (Currently Amended) The method of claim 16, wherein

said characteristic change model ~~is a~~ <u>data comprises</u>

predetermined characteristic change model <u>data</u> installed from ~~the~~

outside <u>the image processing apparatus</u>.

        19.   (Currently Amended) The method of claim 16, wherein

said characteristic change model ~~is an~~ <u>data comprises</u> actual

characteristic change model <u>data</u> obtained based on image

densities measured by the measuring device ~~with the processing of~~

5   ~~the image forming materials~~ <u>each time any said image forming</u>

<u>material is processed</u>.

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20.   (Currently Amended) A method of ~~an~~ image processing

with an image processing apparatus, comprising ~~the steps of~~:

~~exposing for~~ exposing, with an exposing device, ~~an~~ a

thermally developable image forming material so as to form a

5   latent image on the image forming material based on image data;

~~developing for~~ thermally developing and visualizing, with a

thermal developing device, the latent image on the exposed image

forming material so as to form an image;

~~measuring for~~ measuring ~~the~~ an image density of the image on

10   the developed image forming material;

~~calibrating for~~ forming a table to define a relation between

an image signal and an image density thereof based on ~~the basis~~

~~of plural~~ a plurality of different test image data and ~~measured~~

~~image~~ measured image densities thereof;

15   ~~storing for~~ storing a passage-time film characteristic model

~~that is the~~ data indicating a change ~~with~~ over time of a

characteristic of the image forming material after loading of the

image forming material in the image processing apparatus; ~~and~~

~~difference~~ calculating, each time an image is formed based

20   on an image signal corresponding to diagnostic image data, ~~to~~

~~calculate~~ a density difference ~~on the basis of the passage-time~~

~~film characteristic model~~ between ~~the~~ an image density at a time

~~of forming~~ at which the table was formed and ~~the~~ an image density

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at a time ~~of forming an~~ at which the image is formed based on the

25   image signal ~~of~~ corresponding to the diagnostic image data, said

calculation of the density difference being performed based on

the passage-time film characteristic model data; and

~~correcting for~~ correcting the table based on ~~the basis of~~

the calculated density difference. ~~calculated by the difference~~

30   ~~calculating.~~

21.   (Currently Amended) The method of claim 20, ~~wherein~~

~~said storing step stores a~~ further comprising:

storing result data obtained by exposing ~~to~~ a part of the

image forming material with a light quantity ~~through~~ that

5   corresponds to a predetermined density according to the table

~~corresponding to a predetermined density~~ at the time of forming a

diagnosis image and by measuring a density ~~on the~~ at said part of

the image forming material; ~~on which the diagnosis image is~~

~~formed, wherein the method further comprises the steps of:~~

10   ~~first controlling for~~ controlling at least one of ~~an~~

the exposing device and ~~a~~ the developing device ~~in such a way~~

so as to offset ~~the~~ a characteristic change of at least one

of the exposing device and the developing device;

~~first estimating for~~ calculating and keeping a

15   characteristic change of the image forming material based on ~~the~~

~~basis of~~ the stored result data; and

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~~second controlling for~~ controlling at least one of the

exposing device and the developing device <u>based</u> on ~~the basis of~~

~~the first estimating step in such a way as to offset the~~

~~characteristic change of the image forming material~~ <u>the</u>

<u>calculated characteristic change of the image forming material</u>

instead of <u>the</u> stored passage-time film characteristic model <u>data</u>

<u>so as to offset the characteristic change of the image forming</u>

<u>material</u>.

22.   (Currently Amended) The method of claim 21, further

comprising ~~the step of~~:

clearing ~~for clearing off~~ the <u>calculated</u> characteristic

change ~~obtained by the first estimating step at the time of~~

~~preparation~~ of <u>the image forming material when</u> the table ~~by the~~

~~calibrating step or at the time of operation of the second~~

~~controlling step~~ <u>is prepared and when the at least one of the</u>

<u>exposing device and the developing device are controlled based on</u>

<u>the calculated characteristic change of the image forming</u>

<u>material</u>.

23.   (Currently Amended) The method of claim 21, wherein the

~~first controlling step and the second controlling step~~

<u>controlling steps</u> are carried out when an image processing

<u>operation</u> is resumed after ~~a stop of~~ the image processing

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5   <u>apparatus has been stopped</u> for a period of time <u>that is</u> not

shorter than a predetermined time.

24.   (Currently Amended) The method of claim 21, wherein

~~said first estimation step calculates and keeps~~ a characteristic

change of the image forming material <u>is calculated and kept</u> every

time the image processing <u>apparatus</u> stops for a predetermined

period of time.

25.   (Currently Amended) The method of claim 20, ~~wherein~~

~~said storing step stores a~~ <u>further comprising:</u>

<u>storing</u> result data obtained by exposing ~~to~~ a part of the

image forming material with a light quantity ~~through~~ <u>that</u>

5   <u>corresponds to a predetermined density according to</u> the table

~~corresponding to a predetermined density~~ at ~~the~~ <u>a</u> time of forming

a diagnosis image and <u>by</u> measuring a density ~~on the~~ <u>at said</u> part

of the image forming material<u>;</u> ~~on which the diagnosis image is~~

~~formed, wherein the method further comprises the steps of.~~

10   loading a holder which holds ~~an~~ <u>the</u> image forming material

to ~~an~~ <u>the</u> image processing apparatus<u>;</u> ~~including an exposing~~

~~device and a developing device,~~

~~first controlling for~~ controlling at least one of ~~an~~ <u>the</u>

exposing device and ~~a~~ <u>the</u> developing device ~~in such a way~~ <u>so</u> as

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15   to offset ~~the~~ <u>a</u> characteristic change of <u>at least one of</u> the

exposing device and the developing device;

~~third controlling for~~ controlling<u>, during a predetermined</u>

<u>period of time after loading the holder to the image processing</u>

<u>apparatus,</u> at least one of the exposing device and the developing

20   device <u>based</u> on ~~the basis of the~~ <u>a</u> difference between ~~the result~~

~~of~~ the density measured ~~on the~~ <u>at said</u> part of the image forming

material and a predetermined density for comparison<u>;</u> ~~during a~~

~~predetermined period of time after loading the holder to the~~

~~apparatus;~~

25   ~~second estimating for~~ calculating and keeping a

characteristic change of the image forming material ~~through the~~

<u>based on the stored result data and an</u> amount of the control

carried out lastly in the ~~third~~ controlling <u>performed based on</u>

<u>the measured density and the density for comparison;</u> ~~step of the~~

30   ~~result of the density measured in the storing step after a~~

~~predetermined period of time after loading the holder to the~~

~~apparatus;~~ and

~~fourth controlling for~~ controlling<u>, if the predetermined</u>

<u>period of time after loading the holder to the image processing</u>

35   <u>apparatus has elapsed,</u> at least one of the exposing device and

the developing device <u>based</u> on ~~the basis of the second estimating~~

~~step in such a way as to offset the characteristic change of the~~

~~image forming material~~ <u>the calculated characteristic change of</u>

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the image forming material instead of the stored passage-time

40   film characteristic model data so as to offset the characteristic

change of the image forming material.

26. (Currently Amended) The method of claim 25, further

comprising ~~the step of~~:

clearing ~~for clearing off~~ the characteristic change ~~obtained~~

~~by the second estimating step at the time of preparation~~ of the

5   image forming material when the table ~~by the calibrating step or~~

~~at the time of operation of the fourth controlling step~~ is

prepared and when the at least one of the exposing device and the

developing device are controlled based on the calculated

characteristic change of the image forming material.

27.   (Currently Amended) The method of claim 25, wherein

when an image formation operation is resumed after the image

processing apparatus has been stopped for a period of time that

is not shorter than a predetermined time, (i) the ~~first~~

5   ~~controlling step~~ controlling the at least one of the exposing

device and the developing device so as to offset ~~the~~ a

characteristic change of at least one of the exposing device and

the developing device, and (ii) the ~~fourth~~ controlling ~~step~~ the

at least one of the exposing device and the developing device

10   based on the calculated characteristic change of the image

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forming material are both carried out. ~~when an image formation is~~

~~resumed after a stop of the apparatus for a period of time not~~

~~shorter than a predetermined time.~~

28.   (Currently Amended) The method of claim 25, wherein

~~said second estimation step calculates and keeps~~ a characteristic

change of the image forming material is calculated and kept every

time the image processing apparatus stops for a predetermined

period of time.

29.   (Currently Amended) A method of ~~an~~ image processing

with an image processing apparatus, comprising ~~the steps of~~:

~~exposing for~~ exposing ~~an~~ a thermally developable image

forming material so as to form a latent image on the image

5   forming material based on image data;

~~developing for~~ thermally developing and visualizing, with a

thermal developing device, the latent image on the exposed image

forming material so as to form an image;

~~measuring for~~ measuring ~~the~~ an image density of the image on

10   the developed image forming material;

~~calibrating for~~ forming a table to define ~~an~~ a relation

between an image signal and an image density thereof based on ~~the~~

~~basis of plural~~ a plurality of different test image data and

~~measured image~~ measured image densities thereof;

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15   ~~first storing for~~ storing a characteristic change model ~~that~~

~~is at least one of the~~ data indicating changes ~~with~~ over time of

a characteristic of ~~an exposing device and~~ a thermal developing

device after starting of operation of the image processing

apparatus;

20   ~~second storing for~~ storing a passage-time film

characteristic model ~~that is the~~ data indicating a change ~~with~~

over time of a characteristic of the image forming material after

loading of the image forming material in the image processing

apparatus; and

25   ~~difference~~ calculating, each time an image is formed based

on an image signal corresponding to diagnostic image data, ~~to~~

~~calculate~~ a density difference ~~on the basis of the characteristic~~

~~change model and the passage-time film characteristic model~~

between an image density at ~~the~~ a time ~~of forming~~ at which the

30   table was formed and an image density at ~~the~~ a time ~~of forming an~~

at which the image is formed based on the image signal ~~of~~

corresponding to the diagnostic image data, said calculation of

the density difference being performed based on the

characteristic change model data and the passage-time film

35   characteristic model data; and

          ~~correcting for~~ correcting the table based on ~~the basis of~~

the calculated density difference. ~~calculated by the difference~~

~~calculating.~~

30.   (Currently Amended) The method of claim 29, wherein ~~said first storing step stores said~~ the characteristic change model ~~that starts at the~~ data indicates the characteristic change starting from a time ~~of the turning-on of the~~ at which a power source of the image processing apparatus is turned on.

31.   (Currently Amended) A computer-readable recording medium having a computer program stored thereon to ~~control~~ be executed by a computer to ~~function as~~ cause the computer to control an image processor ~~, wherein the image processor~~

5   ~~comprises.~~ to execute functions comprising:

an exposing function for exposing ~~an~~ a thermally developable image forming material so as to form a latent image on the image forming material based on image data;

a thermal developing function for thermally developing and

10   visualizing, with a thermal developing device, the latent image on the exposed image forming material so as to form an image;

a measuring function for measuring ~~the~~ an image density of the image on the developed image forming material;

a calibrating function for forming a table to define a

15   relation between an image signal and image density thereof based on ~~the basis of plural~~ a plurality of different test image data and ~~measured image~~ measured image densities thereof;

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a storing function for storing a characteristic change model

data indicating a characteristic change of ~~at least one of an~~

20 ~~exposing device and an~~ the thermal developing device ~~with~~ over

time after starting of operation of the image processor;

a difference calculating function to calculate, each time an

image is formed based on an image signal corresponding to

diagnostic image data, a density difference ~~on the basis of the~~

25 ~~characteristic change model~~ between ~~the~~ an image density at

a time ~~of forming~~ at which the table was formed and ~~the~~ an image

density at a time ~~of forming an~~ at which the image is formed

based on the image signal ~~of~~ corresponding to the diagnostic

image data, said calculation of the density difference being

30 performed based on the characteristic change model data; and

a correcting function for correcting the table based on ~~the~~

~~basis of~~ the density difference calculated by the difference

calculating function.

32. (Currently Amended) The ~~computer program~~ computer-

readable recording medium of claim 31, wherein ~~said storing~~

~~function stores~~ the characteristic change model ~~that starts at~~

~~the~~ data indicates the characteristic change starting from a time

5 ~~of the turning-on of the~~ at which a power source of the image

processor is turned on.

33.   (Currently Amended) The ~~computer program~~ computer-readable recording medium of claim 31, wherein said characteristic change model ~~is a~~ data comprises predetermined characteristic change model data installed from ~~the~~ outside the image processor.

34.   (Currently Amended) The ~~computer program~~ computer-readable recording medium of claim 31, wherein said characteristic change model ~~is an~~ data comprises actual characteristic change model data obtained based on image densities measured by the measuring function ~~with the processing of the image forming materials~~ each time any said image forming material is processed.

35.   (Currently Amended) A computer-readable recording medium having a computer program stored thereon to ~~control~~ be executed by a computer to ~~function as~~ cause the computer to control an image processor ~~, wherein the image processor comprises.~~ to execute functions comprising:

an exposing function, with an exposing device, for exposing ~~an~~ a thermally developable image forming material so as to form a latent image on the image forming material based on image data;

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a developing function for <u>thermally</u> developing and

10   visualizing<u>, with a thermal developing device,</u> the latent image

on the exposed image forming material so as to form an image;

a measuring function for measuring ~~the~~ <u>an</u> image density of

the image on the developed image forming material;

a calibrating function for forming a table to define a

15   relation between an image signal and <u>an</u> image density thereof

<u>based</u> on ~~the basis of plural~~ <u>a plurality of</u> different test image

data and ~~measured image~~ <u>measured image</u> densities thereof;

a storing function for storing ~~a~~ passage-time film

characteristic model ~~that is the~~ <u>data indicating a</u> change ~~with~~

20   <u>over</u> time of a characteristic of the image forming material <u>after</u>

<u>loading of the image forming material in the image processor</u>; ~~and~~

a difference <u>calculating</u> function to calculate<u>, each time an</u>

<u>image is formed based on an image signal corresponding to</u>

<u>diagnostic image data,</u> a density difference ~~on the basis of the~~

25   ~~passage-time film characteristic model~~ between ~~the~~ <u>an image</u>

<u>density at a</u> time ~~of forming~~ <u>at which</u> the table <u>was formed</u> and

~~the~~ <u>an image density at a</u> time ~~of forming an~~ <u>at which the</u> image

<u>is formed</u> based on ~~the~~ image signal ~~of~~ <u>corresponding to the</u>

diagnostic image data<u>, said calculation of the density difference</u>

30   <u>being performed based on the passage-time film characteristic</u>

<u>model data</u>; and

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a correcting function for correcting the table <u>based</u> on ~~the~~

~~basis of~~ the density difference calculated by the difference

calculating <u>function</u>.

36.   (Currently Amended) The ~~computer program~~ <u>computer-</u>

<u>readable recording medium</u> of claim 35, wherein ~~said storing~~

~~function stores a~~ <u>the image processor is controlled to perform</u>

<u>further functions comprising:</u>

5   <u>a further storing function for storing</u> result data obtained

by exposing ~~to~~ a part of the image forming material with a light

quantity ~~through~~ <u>that corresponds to a predetermined density</u>

<u>according to</u> the table ~~corresponding to a predetermined density~~

at the time of forming a diagnosis image and <u>by</u> measuring a

10   density ~~on the~~ <u>at said</u> part of the image forming material<u>;</u> ~~on~~

~~which the diagnosis image is formed, wherein the image processor~~

~~further comprises.~~

a first controlling function for controlling at least one of

~~an~~ <u>the</u> exposing device and ~~a~~ <u>the</u> developing device ~~in such a way~~

15   <u>so</u> as to offset ~~the~~ <u>a</u> characteristic change of <u>at least one</u>

<u>of</u> the exposing device and the developing device;

a first estimating function for calculating and keeping a

characteristic change of the image forming material <u>based</u> on ~~the~~

~~basis of~~ the <u>stored</u> result data; and

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20   a second controlling function for controlling at least one

of the exposing device and the developing device based on ~~the~~

~~basis of~~ ~~the first estimating step in such a way as to offset the~~

~~characteristic change of the image forming material~~ the

calculated characteristic change of the image forming material

25   instead of the stored passage-time film characteristic model data

so as to offset the characteristic change of the image forming

material.

        37.   (Currently Amended) The ~~computer program~~ computer-

readable recording medium of claim 36, wherein the image

processor is controlled to perform further ~~comprises~~ functions

comprising:

5   a clearing function for clearing ~~off~~ the characteristic

change ~~obtained~~ calculated by the first estimating ~~at the time of~~

~~preparation of~~ function when the table is prepared by the

calibrating ~~or at the time of operation of~~ function and when the

second controlling is performed.

        38.   (Currently Amended) The ~~computer program~~ computer-

readable recording medium of claim 36, wherein the first

controlling function and the second controlling function are

carried out when an image processing operation is resumed after ~~a~~

5   ~~stop of~~ the image ~~processing~~ <u>processor has been stopped</u> for a

period of time <u>that is</u> not shorter than a predetermined time.

39.   (Currently Amended) The ~~computer program~~ <u>computer-</u>

<u>readable recording medium</u> of claim 36, wherein said first

estimation function calculates and keeps a characteristic change

of the image forming material every time the image ~~processing~~

<u>processor</u> stops for a predetermined period of time.

40.   (Currently Amended) The ~~computer program~~ <u>computer-</u>

<u>readable recording medium</u> of claim 35, wherein ~~said storing~~

~~function stores a~~ <u>the image processor is controlled to perform</u>

<u>further functions comprising:</u>

5   <u>a further storing function for storing</u> result data obtained

by exposing ~~to~~ a part of the image forming material with a light

quantity ~~through~~ <u>that corresponds to a predetermined density</u>

<u>according to</u> the table ~~corresponding to a predetermined density~~

at ~~the~~ <u>a</u> time of forming a diagnosis image and <u>by</u> measuring a

10   density ~~on the~~ <u>at said</u> part of the image forming material<u>;</u> ~~on~~

~~which the diagnosis image is formed, wherein the image processor~~

~~further comprises:~~

a loading function for loading for a holder which holds ~~an~~

<u>the</u> image forming material to ~~an~~ <u>the</u> image <u>processor;</u> ~~processing~~

15   ~~apparatus including an exposing device and a developing device,~~

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a first controlling function for controlling at least one of

the exposing device and the developing device ~~in such a way~~ so as

to offset ~~the~~ a characteristic change of at least one of the

exposing device and the developing device;

20   a third controlling function for controlling, during a

predetermined period of time after loading the holder to the

image processor, at least one of the exposing device and the

developing device based on ~~the basis of the~~ a difference between

~~the result of~~ the density measured ~~on the~~ at said part of the

25   image forming material and a predetermined density for

comparison; ~~during a predetermined period of time after loading~~

~~the holder to the apparatus;~~

a second estimating function for calculating and keeping a

characteristic change of the image forming material ~~through the~~

30   based on the stored result data and an amount of the control

carried out lastly in the third controlling function; ~~step of the~~

~~result of the density measured in the storing step after a~~

~~predetermined period of time after loading the holder to the~~

~~apparatus;~~ and

35   a fourth controlling function for controlling, if the

predetermined period of time after loading the holder to the

image processor has elapsed, at least one of the exposing device

and the developing device based on ~~the basis of~~ the

characteristic change calculated in the second estimating ~~step in~~

40 ~~such a way as to offset the characteristic change of the image forming material~~ function instead of stored passage-time film characteristic model <u>data so as to offset the characteristic change of the image forming material</u>.

41. (Currently Amended) The ~~computer program~~ <u>computer-readable recording medium</u> of claim 40, wherein the image processor <u>is controlled to perform</u> further ~~comprises~~ <u>functions comprising</u>:

5 a clearing function for clearing ~~off~~ the characteristic change ~~obtained~~ <u>calculated</u> by the second estimating ~~at the time of preparation of~~ <u>function when</u> the table <u>is prepared</u> by the calibrating ~~or at the time of operation of~~ <u>function and when</u> the fourth controlling <u>is performed</u>.

42. (Currently Amended) The ~~computer program~~ <u>computer-readable recording medium</u> of claim 40, wherein the first controlling function and the fourth controlling function are carried out when an image formation <u>operation</u> is resumed after ~~a~~

5 ~~stop of the apparatus~~ <u>the image processor has been stopped</u> for a period of time <u>that is</u> not shorter than a predetermined time.

43. (Currently Amended) The ~~computer program~~ <u>computer-readable recording medium</u> of claim 40, wherein said second

estimation function calculates and keeps a characteristic change

of the image forming material every time the ~~apparatus~~ image

processor stops for a predetermined period of time.

44.   (Currently Amended) A computer-readable recording

medium having a computer program stored thereon to ~~control~~ be

executed by a computer to ~~function as~~ cause the computer to

control an image processor ~~, wherein the image processor~~

5   ~~comprises.~~ to execute functions comprising:

an exposing function for exposing ~~an~~ a thermally developable

image forming material so as to form a latent image on the image

forming material based on image data;

a developing function for developing and visualizing, with a

10   thermal developing device, the latent image on the exposed image

forming material so as to form an image;

a measuring function for measuring ~~the~~ an image density of

the image on the developed image forming material;

a calibrating function for forming a table to define ~~an~~ a

15   relation between an image signal and an image density thereof

based on ~~the basis of plural~~ a plurality of different test image

data and ~~measured image~~ measured image densities thereof;

a first storing function for storing a characteristic change

model ~~that is at least one of the~~ data indicating changes ~~with~~

20   over time of a characteristic of ~~an exposing device and a~~ the

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thermal developing device ~~after starting of operation of the~~
~~image processor~~;

a second storing function for storing ~~a~~ passage-time film
characteristic model ~~that is the~~ data indicating a change ~~with~~
over time of a characteristic of the image forming material after
loading of the image forming material in the image processor; and

a difference calculating function to calculate, each time an
image is formed based on an image signal corresponding to
diagnostic image data, a density difference ~~on the basis of the~~
~~characteristic change model and the passage-time film~~
~~characteristic model~~ between an image density at ~~the~~ a time ~~of~~
~~forming~~ at which the table was formed and an image density at ~~the~~
a time ~~of forming an~~ at which the image is formed based on the
image signal ~~of~~ corresponding to the diagnostic image data, said
calculation of the density difference being performed based on
the characteristic change model data and the passage-time film
characteristic model data; and

a correcting function for correcting the table based on ~~the~~
~~basis of~~ the density difference calculated by the difference
calculating function.

45. (Currently Amended) The ~~computer program~~ computer-
readable recording medium of claim 44, wherein ~~said first storing~~
~~function stores said~~ the characteristic change model ~~that starts~~

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~~at the~~ <u>data indicates the characteristic change starting from a</u>

time ~~of the turning on of the~~ <u>at which a</u> power source <u>of the</u>

<u>image processor is turned on</u>.

46. (New) An image processing apparatus, comprising:

an exposing device for exposing an image forming material so

as to form a latent image on the image forming material based on

image data;

5 a developing device for developing and visualizing the

latent image on the exposed image forming material so as to form

an image;

a measuring device for measuring an image density of the

image on the developed image forming material;

10 a calibrating device for forming a table to define a

relation between an image signal and an image density thereof

based on a plurality of different test image data and measured

image densities thereof;

a storing device for storing passage-time film

15 characteristic model data that indicates a change over time of a

characteristic of the image forming material;

a difference calculating device to calculate a density

difference, based on the passage-time film characteristic model

data, between an image density at a time at which the table was

20 formed and an image density at a time at which an image is formed

based on an image signal corresponding to diagnostic image data;
and

a correcting device for correcting the table based on the
density difference calculated by the difference calculating

25   device;

wherein said storing device stores result data obtained by
exposing a part of the image forming material with a light
quantity that corresponds to a predetermined density according to
the table at a time of forming a diagnosis image and by measuring

30   a density on said part of the image forming material; and

wherein the image processing apparatus further comprises:

a holder for holding the image forming material;

a first controlling device for controlling at least one
of the exposing device and the developing device so as to offset

35   a characteristic change of at least one of the exposing device
and the developing device;

a third controlling device for controlling, during a
predetermined period of time after loading the holder to the
image processing apparatus, at least one of the exposing device

40   and the developing device based on a difference between the
density measured at said part of the image forming material and a
predetermined density for comparison;

a second estimation device for calculating and keeping
a characteristic change of the image forming material based on an

45 amount of the control carried out lastly in said third

controlling device and the stored result data; and

a fourth controlling device for controlling, if the

predetermined period of time after loading the holder to the

image processing apparatus has elapsed, at least one of the

50 exposing device and the developing device based on the

characteristic change of the image forming material calculated by

the second estimation device instead of stored passage-time film

characteristic model data in so as to offset the characteristic

change of the image forming material.

47.   (New) The image processing apparatus of claim 46,

further comprising:

a clearing device for clearing the characteristic change

calculated by the second estimation device when the table is

5 prepared by the calibrating device and when the fourth

controlling device is operated.

48.   (New) The image processing apparatus of claim 46,

wherein the first controlling device and the fourth controlling

device are operated when an image formation operation is resumed

after the image processing apparatus has been stopped for a

period of time not shorter than a predetermined time.

49.   (New) The image processing apparatus of claim 46,

wherein said second estimation device calculates and keeps a

characteristic change of the image forming material every time

the image processing apparatus stops for a predetermined period

of time.

50. (New) A method of image processing with an image

processing apparatus, comprising:

exposing, with an exposing device, an image forming material

so as to form a latent image on the image forming material based

5   on image data;

developing and visualizing, with a developing device, the

latent image on the exposed image forming material so as to form

an image;

measuring an image density of the image on the developed

10   image forming material;

forming a table to define a relation between an image signal

and an image density thereof based on a plurality of different

test image data and measured image densities thereof;

storing passage-time film characteristic model data that

15   indicates a change over time of a characteristic of the image

forming material;

calculating a density difference, based on the passage-time

film characteristic model, between an image density at a time at

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which the table was formed and an image density at a time at

20   which an image is formed based on an image signal corresponding

to diagnostic image data;

correcting the table based on the calculated density

difference calculated by the difference calculating;

storing result data obtained by exposing a part of the image

25   forming material with a light quantity that corresponds to a

predetermined density according to the table at a time of forming

a diagnosis image and by measuring a density at said part of the

image forming material;

loading a holder which holds the image forming material to

30   the image processing apparatus;

controlling at least one of the exposing device and the

developing device so as to offset a characteristic change of at

least one of the exposing device and the developing device;

controlling, during a predetermined period of time after

35   loading the holder to the image processing apparatus, at least

one of the exposing device and the developing device based on a

difference between the density measured at said part of the image

forming material and a predetermined density for comparison;

calculating and keeping a characteristic change of the image

40   forming material based on an amount of the control carried out

lastly in the controlling performed based on the measured density

and the density for comparison, and the stored result data; and

controlling at least one of the exposing device and the
developing device based on the calculated characteristic change

45   of the image forming material, instead of the stored passage-time
film characteristic model data so as to offset the characteristic
change of the image forming material.

51.   (New) The method of claim 50, further comprising:

clearing the characteristic change of the image forming
material when the table is prepared and when the at least one of
the exposing device and the developing device are controlled
based on the calculated characteristic change of the image
forming material.

52.   (New) The method of claim 50, wherein when an image
formation operation is resumed after the image processing
apparatus has been stopped for a period of time that is not
shorter than a predetermined time, (i) the controlling the at

5   least one of the exposing device and the developing device so as
to offset the a characteristic change of at least one of the
exposing device and the developing device, and (ii) the
controlling the at least one of the exposing device and the
developing device based on the calculated characteristic change

10   of the image forming material are both carried out.

53. (New) The method of claim 50, wherein a characteristic change of the image forming material is calculated and kept every time the image processing apparatus stops for a predetermined period of time.

54. (New) A computer-readable recording medium having a computer program stored thereon to be executed by a computer to cause the computer to control an image processor to execute functions comprising:

5   an exposing function for exposing, with an exposing device, an image forming material so as to form a latent image on the image forming material based on image data;

        a developing function for developing and visualizing, with a developing device, the latent image on the exposed image forming

10   material so as to form an image;

        a measuring function for measuring an image density of the image on the developed image forming material;

        a calibrating function for forming a table to define a relation between an image signal and an image density thereof

15   based on a plurality of different test image data and measured image densities thereof;

        a storing function for storing passage-time film characteristic model data that indicates a change over time of a characteristic of the image forming material; and

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20   a difference calculating function to calculate a density

difference, based on the passage-time film characteristic model

data, between an image density at a time at which the table was

formed and an image density at a time at which an image is formed

based on image signal corresponding to diagnostic image data; and

25   a correcting function for correcting the table based on the

density difference calculated by the difference calculating

function;

a further storing function for storing result data obtained

by exposing a part of the image forming material with a light

30   quantity that corresponds to a predetermined density according to

the table at a time of forming a diagnosis image and by measuring

a density on said part of the image forming material;

a loading function for loading for a holder which holds the

image forming material to the image processor;

35   a first controlling function for controlling at least one of

the exposing device and the developing device so as to offset a

characteristic change of at least one of the exposing device and

the developing device;

a third controlling function for controlling, during a

40   predetermined period of time after loading the holder to the

image processor, at least one of the exposing device and the

developing device based on a difference between the density

measured at said part of the image forming material and a

predetermined density for comparison;

45   a second estimating function for calculating and keeping a

characteristic change of the image forming material based on an

amount of the control carried out lastly in the third controlling

function of and the stored result data; and

        a fourth controlling function for controlling, if the

50   predetermined period of time after loading the holder to the

image processor has elapsed, at least one of the exposing device

and the developing device based on the characteristic change

calculated in the second estimating function instead of the

stored passage-time film characteristic model data so as to

55   offset the characteristic change of the image forming material.

        55.   (New) The computer-readable recording medium of

claim 54, wherein the image processor is controlled to perform

further functions comprising:

        a clearing function for clearing the characteristic change

5   calculated by the second estimating function when the table is

prepared by the calibrating function and when the fourth

controlling is performed.

        56.   (New) The computer-readable recording medium of

claim 54, wherein the first controlling function and the fourth

controlling function are carried out when an image formation

operation is resumed after the the image processor has been

5   stopped for a period of time not shorter than a predetermined

time.

57.   (New) The computer-readable recording medium of

claim 54, wherein said second estimation function calculates and

keeps a characteristic change of the image forming material every

time the image processor stops for a predetermined period of

time.